IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Shunpei Yamazaki et al. Art Unit : Unknown
Serial No. : Unassigned Examiner : Unknown
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Title : PORTABLE INFORMATION APPARATUS AND METHOD OF DRIVING THE SAME

Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Prior to examination, please amend the application as follows:

In the claims:

Amend claims 3-9, 14-16, 18 and 20-25 as follows:

3. A portable information apparatus having an electroluminescence display device, said electroluminescence display device comprising:

a plurality of power supply lines;

a plurality of pixels, each of said plurality of pixels having n memory circuits and a D/A converter for converting digital signals stored in said n memory circuits into an analog signal;

a thin film transistor having a gate electrode, a source region and a drain region, with said gate electrode being connected to receive an analog signal from the D/A converter of one said pixels, and one of said source region and said drain region being connected to one of said plurality of power supply lines; and

an electroluminescence element connected to one of said source region and said drain region that is not connected to one of said plurality of power supply lines.

4. A portable information apparatus having an electroluminescence display device, said electroluminescence display device comprising:

a plurality of power supply lines;

a plurality of pixels, each of said plurality of pixels having n X m memory circuits and a D/A converter for converting digital signals stored in said n X m memory circuits into an analog signal;

a thin film transistor having a gate electrode, a source region and a drain region, with said gate electrode being connected to receive an analog signal from the D/A converter of one of said pixels, and one of said source region and said drain region being connected to one of said plurality of power supply lines; and

an electroluminescence element connected to one of said source region and said drain region that is not connected to one of said plurality of power supply lines.

5. The portable information apparatus of claim 4, wherein each of the plurality of pixels stores digital signals for m frames.

6. A portable information apparatus according to claim 1, wherein:

the electroluminescence display device includes a source signal line, and

the memory circuits and the D/A converter are disposed to overlap with the source signal line.

7. A portable information apparatus according to claim 1, wherein:

the electroluminescence display device includes a gate signal line, and

the memory circuits and the D/A converter are disposed to overlap with the gate signal line.

8. A portable information apparatus having an electroluminescence display device, said electroluminescence display device comprising a plurality of pixels, each of said plurality of pixels having:

n gate signal lines;

a plurality of source signal lines crossing said n gate signal lines;

a plurality of power supply lines disposed parallel to said n gate signal lines or said plurality of source signal lines;

n first thin film transistors, each of said n first thin film transistors having a first gate electrode, a first source region and a first drain region, with said first gate electrode being connected to one of said n gate signal lines, and one of said first source region and said first drain region being connected to one of said plurality of source signal lines;

n memory circuits, with an input terminal of each of said n memory circuits being connected to said one of said first source region and said first drain region;

a D/A converter connected to an output terminal of each of said memory circuit;

a second thin film transistor having a second gate electrode, a second source region and a second drain region, with said second gate electrode being connected to an output terminal of said D/A converter and one of said second source region and said second drain region being connected to one of said plurality of power supply lines; and

an electroluminescence element connected to one of said second source region and said second drain region.

9. A portable information apparatus having an electroluminescence display device, said electroluminescence display device comprising a plurality of pixels, each of said plurality of pixels having:

n source signal lines;

a plurality of gate signal lines crossing said n source signal lines;

a plurality of power supply lines disposed parallel to said n source signal lines or said plurality of gate signal lines;

n first thin film transistors, each of said n first thin film transistors having a first gate electrode, a first source region and a first drain region, with said first gate electrode being connected to one of said n source signal lines, and one of said first source region and said first drain region being connected to one of said plurality of gate signal lines;

n memory circuits, with an input terminal of each of said n memory circuits being connected to said one of said first source region and said first drain region;

a D/A converter connected to an output terminal of each of said memory circuit;

a second thin film transistor having a second gate electrode, a second source region and a second drain region, said second gate electrode being connected to an output terminal of said D/A converter and one of said second source region and said second drain region being connected to one of said plurality of power supply lines; and

an electroluminescence element connected to one of said second source region and said second drain region.

14. A portable information apparatus according to claim 1, wherein each of the memory circuits is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (FRAM) and a dynamic memory (DRAM).

15. A portable information apparatus according to claim 1, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

16. A portable information apparatus according to claim 1, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

18. A method of driving a portable information apparatus according to claim 17, wherein the plurality of pixels are arranged in a matrix form, the method further comprising rewriting only the stored digital signals of the plurality of memory circuits included in a pixel at a specific row or a pixel at a specific column among the plurality of pixels.

20. A method of driving a portable information apparatus including an electroluminescence display device and a CPU, wherein

the electroluminescence display device includes a plurality of pixels and a first circuit for outputting signals to the plurality of pixels, and

the CPU includes a second circuit for controlling the first circuit,

the method comprising:

storing digital signals in a plurality of memory circuits included in each of the plurality of pixels,

repeatedly reading the stored digital signals,

converting the repeatedly read digital signals into corresponding analog signals,

inputting the analog signals to an electroluminescence element, and

stopping an operation of the second circuit.

21. A method of driving a portable information apparatus incorporating an electroluminescence display device including a plurality of pixels, and a VRAM,

the method comprising:

storing digital signals in a plurality of memory circuits included in each of the plurality of pixels,

repeatedly reading the stored digital signals,

converting the repeatedly read digital signals into corresponding analog signals,

inputting the analog signals to an electroluminescence element, and

stopping a data readout operation of the VRAM.

22. A method of driving a portable information apparatus according to claim 17, wherein one readout operation is carried out for one frame period in the plurality of memory circuits.

23. A method of driving a portable information apparatus according to claim 17, wherein the memory circuit is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (PRAM)and a dynamic memory (DRAM).

24. A method of driving a portable information apparatus according to claim 17, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

25. A method of driving a portable information apparatus according to claim 17, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

Add claims 26-94 as follows:

--26. A portable information apparatus according to claim 2, wherein:

the electroluminescence display device includes a source signal line, and

the memory circuits and the D/A converter are disposed to overlap with the source signal line.

27. A portable information apparatus according to claim 3, wherein:

the electroluminescence display device includes a source signal line, and

the memory circuits and the D/A converter are disposed to overlap with the source signal line.

28. A portable information apparatus according to claim 4, wherein:

the electroluminescence display device includes a source signal line, and

the memory circuits and the D/A converter are disposed to overlap with the source signal line.

29. A portable information apparatus according to claim 5, wherein:

the electroluminescence display device includes a source signal line, and

the memory circuits and the D/A converter are disposed to overlap with the source signal line.

30. A portable information apparatus according to claim 2, wherein:

the electroluminescence display device includes a gate signal line, and

the memory circuits and the D/A converter are disposed to overlap with the gate signal line.

31. A portable information apparatus according to claim 3, wherein:

the electroluminescence display device includes a gate signal line, and

the memory circuits and the D/A converter are disposed to overlap with the gate signal line.

32. A portable information apparatus according to claim 4, wherein:

the electroluminescence display device includes a gate signal line, and

the memory circuits and the D/A converter are disposed to overlap with the gate signal line.

33. A portable information apparatus according to claim 5, wherein:

the electroluminescence display device includes a gate signal line, and

the memory circuits and the D/A converter are disposed to overlap with the gate signal line.

34. A portable information apparatus according to claim 2, wherein each of the memory circuits is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (FRAM) and a dynamic memory (DRAM).

35. A portable information apparatus according to claim 3, wherein each of the memory circuits is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (FRAM) and a dynamic memory (DRAM).

36. A portable information apparatus according to claim 4, wherein each of the memory circuits is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (FRAM) and a dynamic memory (DRAM).

37. A portable information apparatus according to claim 5, wherein each of the memory circuits is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (FRAM) and a dynamic memory (DRAM).

38. A portable information apparatus according to claim 6, wherein each of the memory circuits is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (FRAM) and a dynamic memory (DRAM).

39. A portable information apparatus according to claim 7, wherein each of the memory circuits is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (FRAM) and a dynamic memory (DRAM).

40. A portable information apparatus according to claim 8, wherein each of the memory circuits is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (FRAM) and a dynamic memory (DRAM).

41. A portable information apparatus according to claim 9, wherein each of the memory circuits is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (FRAM) and a dynamic memory (DRAM).

42. A portable information apparatus according to claim 10, wherein each of the memory circuits is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (FRAM) and a dynamic memory (DRAM).

43. A portable information apparatus according to claim 11, wherein each of the memory circuits is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (FRAM) and a dynamic memory (DRAM).

44. A portable information apparatus according to claim 12, wherein each of the memory circuits is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (FRAM) and a dynamic memory (DRAM).

45. A portable information apparatus according to claim 13, wherein each of the memory circuits is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (FRAM) and a dynamic memory (DRAM).

46. A portable information apparatus according to claim 2, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

47. A portable information apparatus according to claim 3, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

48. A portable information apparatus according to claim 4, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

49. A portable information apparatus according to claim 5, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

50. A portable information apparatus according to claim 6, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

51. A portable information apparatus according to claim 7, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

52. A portable information apparatus according to claim 8, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

53. A portable information apparatus according to claim 9, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

54. A portable information apparatus according to claim 10, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

55. A portable information apparatus according to claim 11, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

56. A portable information apparatus according to claim 12, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

57. A portable information apparatus according to claim 13, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

58. A portable information apparatus according to claim 14, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

59. A portable information apparatus according claim 2, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

60. A portable information apparatus according claim 3, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

61. A portable information apparatus according claim 4, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

62. A portable information apparatus according claim 5, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

63. A portable information apparatus according claim 6, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

64. A portable information apparatus according claim 7, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

65. A portable information apparatus according claim 8, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

66. A portable information apparatus according claim 9, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

67. A portable information apparatus according claim 10, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

68. A portable information apparatus according claim 11, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

69. A portable information apparatus according claim 12, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

70. A portable information apparatus according claim 13, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

71. A portable information apparatus according claim 14, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

72. A portable information apparatus according claim 15, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

73. A method of driving a portable information apparatus according to claim 18, wherein one readout operation is carried out for one frame period in the plurality of memory circuits.

74. A method of driving a portable information apparatus according to claim 19, wherein one readout operation is carried out for one frame period in the plurality of memory circuits.

75. A method of driving a portable information apparatus according to claim 20, wherein one readout operation is carried out for one frame period in the plurality of memory circuits.

76. A method of driving a portable information apparatus according to claim 21, wherein one readout operation is carried out for one frame period in the plurality of memory circuits.

77. A method of driving a portable information apparatus according to claim 18, wherein the memory circuit is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (PRAM)and a dynamic memory (DRAM).

78. A method of driving a portable information apparatus according to claim 19, wherein the memory circuit is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (PRAM)and a dynamic memory (DRAM).

79. A method of driving a portable information apparatus according to claim 20, wherein the memory circuit is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (PRAM)and a dynamic memory (DRAM).

80. A method of driving a portable information apparatus according to claim 21, wherein the memory circuit is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (PRAM)and a dynamic memory (DRAM).

81. A method of driving a portable information apparatus according to claim 22, wherein the memory circuit is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (PRAM)and a dynamic memory (DRAM).

82. A method of driving a portable information apparatus according to claim 18, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

83. A method of driving a portable information apparatus according to claim 19, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

84. A method of driving a portable information apparatus according to claim 20, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

85. A method of driving a portable information apparatus according to claim 21, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

86. A method of driving a portable information apparatus according to claim 22, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

87. A method of driving a portable information apparatus according to claim 23, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

88. A method of driving a portable information apparatus according to claim 18, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

89. A method of driving a portable information apparatus according to claim 19, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

90. A method of driving a portable information apparatus according to claim 20, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

91. A method of driving a portable information apparatus according to claim 21, wherein the portable information apparatus is one selected from the group consisting of a

portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

92. A method of driving a portable information apparatus according to claim 22, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

93. A method of driving a portable information apparatus according to claim 23, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

94. A method of driving a portable information apparatus according to claim 24, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.--

REMARKS

The amendments to the claims made herein are to correct minor grammatical errors and to place the application in better form for examination. No new matter is added.

Attached is a marked-up version of the changes being made by the current amendment.

Applicant asks that all claims be examined. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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Version with markings to show changes made

In the claims:

Claims 3-9, 14-16, 18 and 20-25 have been amended as follows:

3. (Amended) A portable information apparatus having an electroluminescence display device, said electroluminescence display device comprising:

a plurality of power supply lines;

a plurality of pixels, each of said plurality of pixels having n memory circuits and a D/A converter for converting digital signals stored in said n memory circuits into an analog signal;

a thin film transistor having a gate electrode, a source region and a drain region, with said gate electrode **[inputted]** being connected to receive an analog signal from **[said]** the D/A converter**[,]** of one said pixels, and one of said source region and said drain region being connected to one of said plurality of power supply lines; and

an electroluminescence element connected to one of said source region and said drain region that is not connected to one of said plurality of power supply lines.

4. (Amended) A portable information apparatus having an electroluminescence display device, said electroluminescence display device comprising:

a plurality of power supply lines;

a plurality of pixels, each of said plurality of pixels having n X m memory circuits and a D/A converter for converting digital signals stored in said n X m memory circuits into an analog signal;

a thin film transistor having a gate electrode, a source region and a drain region, with said gate electrode **[inputted]** being connected to receive an analog signal from **[said]** the D/A converter of one of said pixels, and one of said source region and said drain region being connected to one of said plurality of power supply lines; and

an electroluminescence element connected to one of said source region and said drain region that is not connected to one of said plurality of power supply lines.

5. (Amended) **[A]** The portable information apparatus of claim 4, **[having an electroluminescence display device, said electroluminescence display device comprising:**

a plurality of power supply lines;

a plurality of pixels, each of said plurality of pixels having n X m memory circuits and a D/A converter for converting digital signals stored in said n X m memory circuits into an analog signal;

a thin film transistor having a gate electrode, a source region and a drain region, said gate electrode inputted an analog signal from said D/A converter, one of said source region and said drain region connected to one of said plurality of power supply lines; and

an electroluminescence element connected to one of said source region and said drain region that is not connected to one of said plurality of power supply lines,]

wherein each of the plurality of pixels stores **[the]** digital signals for m frames.

6. (Amended) A portable information apparatus according to **[any one of claims 1 to 5]** claim 1, wherein:

the electroluminescence display device includes a source signal line, and

the memory circuits and the D/A converter are disposed to overlap with the source signal line.

7. (Amended) A portable information apparatus according to **[any one of claims 1 to 5]** claim 1, wherein:

the electroluminescence display device includes a gate signal line, and the memory circuits and the D/A converter are disposed to overlap with the gate signal line.

8. (Amended) A portable information apparatus having an electroluminescence display device, said electroluminescence display device comprising**[:]** a plurality of pixels, each of said plurality of pixels having:

n gate signal lines;

a plurality of source signal lines crossing said n gate signal lines;

a plurality of power supply lines disposed parallel to said n gate signal lines or said plurality of source signal lines;

n first thin film transistors, each of said n first thin film transistors having a first gate electrode, a first source region and a first drain region, with said first gate electrode being connected to one of said n gate signal lines, and one of said first source region and said first drain region being connected to one of said plurality of source signal lines;

n memory circuits, with an input terminal of each of said n memory circuits being connected to said one of said first source region and said first drain region;

a D/A converter connected to an output terminal of each of said memory circuit;

a second thin film transistor having a second gate electrode, a second source region and a second drain region, with said second gate electrode being connected to an output terminal of said D/A converter and one of said second source region and said second drain region being connected to one of said plurality of power supply lines; and

an electroluminescence element connected to one of said second source region and said second drain region.

9. (Amended) A portable information apparatus having an electroluminescence display device, said electroluminescence display device comprising[:]

a plurality of pixels, each of said plurality of pixels having:

n source signal lines;

a plurality of gate signal lines crossing said n source signal lines;

a plurality of power supply lines disposed parallel to said n source signal lines or said plurality of gate signal lines;

n first thin film transistors, each of said n first thin film transistors having a first gate electrode, a first source region and a first drain region, with said first gate electrode being connected to one of said n source signal lines, and one of said first source region and said first drain region being connected to one of said plurality of gate signal lines;

n memory circuits, with an input terminal of each of said n memory circuits being connected to said one of said first source region and said first drain region;

a D/A converter connected to an output terminal of each of said memory circuit;

a second thin film transistor having a second gate electrode, a second source region and a second drain region, said second gate electrode being connected to an output terminal of said D/A converter and one of said second source region and said second drain region being connected to one of said plurality of power supply lines; and

an electroluminescence element connected to one of said second source region and said second drain region.

14. (Amended) A portable information apparatus according to **[any one of claims 1 to 13]** claim 1, wherein each of the memory **[circuit]** circuits is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (FRAM) and a dynamic memory (DRAM).

15. (Amended) A portable information apparatus according to **[any one of claims 1 to 14]** claim 1, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

16. (Amended) A portable information apparatus according to **[any one of claims 1 to 15]** claim 1**,** wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.

18. (Amended) A method of driving a portable information apparatus according to claim 17, wherein the plurality of pixels are arranged in a matrix form, **[and]** the method further comprising rewriting only the stored digital signals of the plurality of memory circuits included in a pixel at a specific row or a pixel at a specific column among the plurality of

pixels **[are rewritten]**.

20. (Amended) A method of driving a portable information apparatus including an electroluminescence display device and a CPU, wherein

the electroluminescence display device includes a plurality of pixels and a first circuit for outputting signals to the plurality of pixels, and

the CPU includes a second circuit for controlling the first circuit,

the method comprising:

storing digital signals **[are stored]** in a plurality of memory circuits included in each of the plurality of pixels,

repeatedly reading the stored digital signals **[are repeatedly read out]**,

converting the repeatedly read digital signals **[are converted]** into corresponding analog signals,

inputting the analog signals **[are inputted]** to an electroluminescence element, and

stopping an operation of the second circuit **[is stopped]**.

21. (Amended) A method of driving a portable information apparatus incorporating an electroluminescence display device including a plurality of pixels, and a VRAM, **[wherein]**

the method comprising:

storing digital signals **[are stored]** in a plurality of memory circuits included in each of the plurality of pixels,

repeatedly reading the stored digital signals **[are repeatedly read out]**,

converting the repeatedly read digital signals **[are converted]** into corresponding analog signals,

inputting the analog signals **[are inputted]** to an electroluminescence element, and

stopping a data readout operation of the VRAM **[is stopped]**.

22. (Amended) A method of driving a portable information apparatus according to **[any one of claims 17 to 21]** claim 17, wherein one readout operation is carried out for one frame period in the plurality of memory circuits.

23. (Amended) A method of driving a portable information apparatus according to **[any one of claims 17 to 22]** claim 17, wherein the memory circuit is a memory selected from the group consisting of a static memory (SRAM), a ferroelectric memory (PRAM)and a dynamic memory (DRAM).

24. (Amended) A method of driving a portable information apparatus according to **[any one of claims 17 to 23]** claim 17, wherein the memory circuits are formed on a substrate selected from the group consisting of a glass substrate, a plastic substrate, a stainless substrate, and a single crystal wafer.

25. (Amended) A method of driving a portable information apparatus according to **[any one of claims 17 to 24]** claim 17, wherein the portable information apparatus is one selected from the group consisting of a portable telephone, a personal computer, a navigation system, a PDA, and an electronic book.